

APPARATUS AND METHOD FOR CONTROL
OF TISSUE/IMPLANT INTERACTIONS

Abstract

A tissue/implant interface, comprising an implant and a bioactive polymer layer adjacent at least a portion of the outer surface of the implant, wherein the polymer layer contains at least one tissue response modifier covalently attached to the polymer layer or entrapped within the polymer layer in a quantity effective to control the tissue response at the site of implantation. Preferably, the at least one tissue response modifier controls inflammation, fibrosis, and/or neovascularization. Exemplary tissue response modifiers include, but are not limited to, steroidal and non-steroidal anti-inflammatory agents, anti-fibrotic agents, anti-proliferative agents, cytokines, cytokine inhibitors, neutralizing antibodies, adhesive ligands, and combinations thereof. Use of the various combinations of tissue response modifiers with bioactive polymers provides a simple, flexible and effective means to control the implant/tissue interphase, improving implant lifetime and function.